CLAIMS

What is claimed is:

Sub a1

1. An apparatus for securing a grating sheet comprised of parallel and transverse bars forming a pattern of openings to a structural member, the apparatus comprising:

an elongated generally L-shaped connector having an upper plate section generally rectangular in shape for mounting on the upper surface of the grating sheet;

a downwardly extending sidewall formed integrally with the plate section and extending along a longitudinal edge of the grating sheet; and

attachment means for securing the sidewall to the structural member.

2. The apparatus of claim 1, wherein the plate section includes a downwardly extending series of teeth formed integrally with the plate section and extending parallel to the sidewall for insertion in said openings between the bars of the grating sheet.

Sub a2

3. The apparatus of claim 1, wherein the apparatus is formed of a corrosion resistant material such as stainless steel.

4. The apparatus of claim 1, wherein the grating is formed of a corrosion resistant material such as fiberglass.

5. An apparatus for securing a fiberglass grating sheet, comprised of parallel and transverse bars forming a pattern of openings, to a support member, the apparatus comprising:

an elongated generally L-shaped connector member for attachment to the grating sheet and to the support member, the connector including an upper plate section generally rectangular in shape for mounting on the upper surface of the grating sheet;

a downwardly extending sidewall integral with the plate section and extending along a longitudinal edge of the grating sheet, wherein the sidewall and the plate section form a bracket for securing the grating sheet;

a plurality of downwardly extending teeth formed integrally with the plate section and spaced from each other for insertion between the grating bars; and

securing means for securing said sidewall to said support member.

6. The apparatus of claim 5, wherein the apparatus is formed of a corrosion resistant material such as stainless steel.

7. An apparatus for securing a grating sheet to structural members, the grating sheet including an upper and lower surface, the apparatus comprising:

a top plate for mounting on the upper surface of the grating sheet, the top plate having a hole therein and upper and lower surfaces;

a bottom plate having a slot opening, the bottom plate being sized and shaped for attaching to the structural member in a laterally extending direction for supporting the grating sheet; and

engaging means for clamping the top plate and bottom plate together in order to secure the grating sheet to the structural members so as to prevent displacement of the grating sheet from the structural members by extreme wave action.

8. The apparatus of claim 7, wherein the engaging means is a bolt member shaped and sized for extending through the hole in the top plate and the slot opening in the bottom plate for engagement with a threaded nut, the bolt member including a threaded portion for mating with the threaded nut.

9. The apparatus of claim 7, wherein the bottom plate has upper and lower surfaces with a channel secured to the lower surface of the bottom plate and aligned with the slot opening of the bottom plate.

10. The apparatus of claim 9, wherein the channel is sized and shaped for housing a movable engaging means.

11. The apparatus of claim 10, wherein the movable engaging means is a threaded nut that mates with a threaded portion of a bolt member.

12. The apparatus of claim 7, further comprising a cylindrical standoff secured to the lower surface of the top plate for placement between

a bottom plate having an upper surface and an upwardly extending bolt attached to the upper surface of the bottom plate for insertion between adjacent grating bars and through the circular hole of the top plate, the bottom plate being sized and shaped for attaching to the structural member in a laterally extending direction for supporting the grating sheet; and

engaging means for clamping the top and bottom plates together in order to secure the grating sheets to the structual members so as to prevent displacement of the grating sheet from the structural members by extreme wave action.

18. The apparatus of claim 17, wherein the bolt has a threaded portion for engagement with the engaging means, the engaging means including a threaded nut adapted to mate with the threaded portion of the bolt.

19. The apparatus of claim 17, wherein the depression in the top plate is sized and shaped to allow positioning within the openings of the grating sheet.

20. The apparatus of claim 17, wherein the apparatus is formed of a corrosion resistant material such as stainless steel.

21. A fastening system for securing grating sheets comprised of parallel and transverse bars forming a pattern of openings to structural members of offshore platforms or other similar platforms, comprising;

adjacent grating bars, the standoff having a bore and an opening sized and shaped to receive a portion of the bolt member therethrough.

13. The apparatus of claim 7, wherein the apparatus is formed of a corrosion resistant material such as stainless steel.

14. The apparatus of claim 7, further comprising a downwardly extending bolt attached to the lower surface of the top plate for insertion between adjacent grating bars and through the slot opening of the bottom plate.

15. The apparatus of claim 14, wherein said bolt has a threaded portion for engagement with a threaded nut configured to mate with the threaded portion of the bolt.

16. The apparatus of claim 7, wherein the grating sheets are used to form a floor for a walkway on an offshore platform and the structural members provide support for the walkway.

17. An apparatus for securing a grating sheet to a structural member, the grating sheet comprised of parallel and transverse bars forming a pattern of openings, the grating sheet including upper and lower surfaces, the apparatus comprising:

a top plate for mounting on the upper surface of the grating sheet, the top plate having a centrally located depression with a centrally located circular hole;

elongated generally L-shaped connectors for fastening the longitudinal edges of grating sheets to structural members in a wave zone area of the platform;

plate fasteners including a top plate for mounting on an upper surface of the grating sheets, a bottom plate for attaching to the structural members in a laterally extending direction for supporting the grating sheet and engaging means for clamping the top and bottom plates together in order to secure the grating sheets to the structual members in a wave zone area of the platform;

whereby the combination of the elongated L-shaped connectors and the plate fasteners provide fastening support for the gratings sheets so as to resist vertical and horizontal wave pressures when secured to the supporting members.

22. The system of claim 21, wherein the grating sheets are formed of a corrosion resistant material such as fiberglass.

23. The system of claim 21, wherein the L-shaped connectors and plate fasteners are formed of a corrosion resistant material such as stainless steel.